of different matrixes influencing the process of degradation of TC.

3. Hazard assessment of the wastes in toxic-and-sanitary experiment relying on non-specific signs of intoxication due to relatively low percentage of TC and masking effects of various matrix components. Application of the integral toxicity tests with soil-and-plant microflora and hydrocoles.

4. Development of non-standard methodical approaches when determining and interpreting the hazard classes of the wastes, containing high toxic compounds such as nerve gases. In particular, disembodied methods applied for solving the tasks of assessment of chemical compounds toxicity were summarized, as well as a uniform scheme of experimental toxicological assessment of TC of a high risk is presented. A system of quantitative assessment of the TC risk is developed on the basis of integral coefficient of risk (K_{TC}), thus simplifying decision making after toxicological testing. Calculation of the coefficient of the TC risk is based on logarithm of ratio of toxicometry parameters to the value of identical parameters determining affiliation of the TC to the 1st class of risk (extreme risk).

Due to the methodology developed in our Institute, we have for the first time estimated the class of toxicity of a highly complicated industrial system.

46. RADIATION RISK ASSOCIATED WITH LOW DOSES OF IONIZING RADIATION: IRRATIONAL FEAR OR REAL DANGER? *(14)*

Dr. Vladimir Rembovskiy, Dr. Vladimir Reshetin
Joint Institute for Power and Nuclear Research
National Academy of Sciences of Belarus
Sosny-Minsk, 220109, **Belarus**

The established worldwide practice of protecting people from radiation based on the assessments of radiation risk received in the researches carried out earlier costs hundreds of billions of dollars a year to implement. In the opinion of the well-known experts, the maintenance of the existing radiation protection regulations or moreover acceptance of more tough regulations can influence the development of nuclear power engineering.

The accepted practice of assessment of human health risk from radiation may also significantly affect our perception of threats of radiation terrorism. In this work, the critical analysis of publications on the assessment of the effects of small doses of radiation on human health is carried out. In our analysis, we especially emphasize the data on cancer mortality among survivors of the atomic bombing of Hiroshima and Nagasaki who received instantaneous radiation doses of less than 200 mSv including the data on leukemia and solid cancer, as well as epidemiological studies in the regions of India and China with high level of natural radiation.

Since the investigations of radiation risk is a base for formulating modern radiation protection regulations, their reliability and validity are of great importance. As follows from the analysis, the subsequent, during three decades, toughening of radiation protection regulations has already led to exceedingly prohibitive standards and impractical recommendations the science-based validity of which can cause serious doubts.

Now, a number of world-wide known scientists and authoritative international organizations call for revision of these standards and of the radiation safety concept itself.

Key words: Radiation protection, Low dose, Epidemiological study, Atomic bombing, Safety

47. THE INTEGRATION OF A SMALL THERMAL DESORPTION (TD) SYSTEM FOR AIR MONITORING INTO A MOBILE ANALYTICAL LABORATORY IN FRANCE USED BY THE NRBC EMERGENCY FIRST RESPONDER POLICE ORGANIZATION *(10)*

Dr. Gareth M. Roberts
Markes International Ltd, Gwaun Elia, Medi Science Campus, Llantrisant, South Wales, CF72 8XL, **UK**

A mobile analytical laboratory has been developed in France by Thales Security Systems in conjunction with the French department of defense (DGA) to rapidly identify the composition of toxic substances released accidentally or by terrorist activity at a location of high civilian population density.

Accurate and fast identification of toxic material is critical for first responder teams that attend an incident site. Based on this analysis defined decontamination protocols for contaminated people can be implemented, and specific medical treatment can be administered to those worst affected.

Analysing samples with high technology instrumentation close to the point of release is therefore highly advantageous and is only possible with mobile analytical platforms. Transporting samples back to a central laboratory for analysis is not realistic due to time limitations.

This paper looks at one particular aspect of analysis performed in this mobile multi-technique laboratory namely air monitoring for CW or TIC compounds. Air sampling and pre concentration is achieved using a small, innovative Thermal Desorption system (Unity^{tm}) in combination with a gas chromatograph-mass spectroscopy system for the detection and identification of specific analytes.

Implementation of the Unity TD system in the confines of this small mobile environment will be reviewed in this paper.